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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/040,975 | 12/28/2001 | Richard H. Crump | 10360-085001/13612BAUS01U | 1741 |

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GUERIN & RODRIGUEZ, LLP
5 MOUNT ROYAL AVENUE
MOUNT ROYAL OFFICE PARK
MARLBOROUGH, MA 01752

| EXAMINER | |
|---|---|
| NEURAUTER, GEORGE C | |
| **ART UNIT** | **PAPER NUMBER** |
| 2143 | |

DATE MAILED: 09/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/040,975 | CRUMP ET AL. | |
| | Examiner | Art Unit | |
| | George C. Neurauter, Jr. | 2143 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *27 June 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

Claims 1-20 are currently presented and have been examined.

### *Response to Arguments*

Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless -
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1-5, 7-11, 13-17, and 19-20 are rejected under 35 U.S.C. 102(a) as anticipated by US Patent Application Publication 2001/0050914 to Akahane et al.

Regarding claim 1, Akahane discloses a method for routing a packet comprising:

dedicating a separate routing table to each domain of a plurality of domains ("virtual private networks") for use in routing packets propagating that domain; receiving the packet from one of the plurality of address domains through one of a plurality of interfaces ("physical interface" or "user line

interface"); and determining one of the routing tables for the packet according to a mapping array ("correspondence of one physical interface to one VPN"), the mapping array including pointers that associate the interfaces with the routing tables. (paragraphs 0006 and 0007; see also paragraph 0016)

Regarding claim 2, Akahane discloses the method of claim 1 further comprising executing a single IP stack to receive the packet and determine the one routing table. (paragraph 0006, specifically "Upon the reception of the packet, the VPN edge router finds one of the VPNs to which one of the LANs belongs across which the packet passed. Then , the VPN edge router searches the routing table...")

Regarding claim 3, Akahane discloses the method of claim 1 wherein the mapping array associates interfaces connecting to the same address domain with the same routing table. (paragraph 0007, specifically "...correspondence of one physical interface to one VPN is required.")

Regarding claim 4, Akahane discloses the method of claim 1 further comprising, after the one routing table is determined, forwarding the packet according to the one routing table if the packet is a data packet. (paragraph 0006, specifically "...the VPN edge router...determines the forwarded-to-destination of the

packet across the ISP network, and encapsulates the packet...it can forward the packets to their correct destinations...")

Regarding claim 6, Akahane discloses the method of claim 1 wherein each of the plurality of address domains represents a virtual private network. (paragraph 0006, specifically "Private IP addresses are often used in intra-corporation networks...private IP address are used in the VPNs...")

Regarding claim 19, Akahane discloses a method for routing a packet, comprising dedicating a separate routing table to each address domain of a plurality of address domains ("virtual private networks"); connecting at least one interface to each address domain of the plurality of address domains; associating each interface with one of the separate routing tables; receiving the packet from a given one of the plurality of address domains through a given one of the plurality of interfaces; associating the packets with the given interface through which the packet is received; and selecting one of the separate routing tables for routing the packet based on the given interface with which the packet is associated. (paragraphs 0006 and 0007; see also paragraph 0016)

Claims 7-10 and 12 are also rejected since claims 7-10 and 12 recite a router that contain substantially the same limitations as recited in claims 1-4 and 6 respectively.

Claims 13-16 and 18 are also rejected since claims 13-16 and 18 recite a computer program product that contain substantially the same limitations as recited in claims 1-4 and 6 respectively.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various

claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 5, 11, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Akahane in view of Applicant's admitted prior art.

Regarding claim 5, Akahane discloses the method of claim 1.

Akahane does not disclose the method further comprising, after the one routing table is determined, updating the one routing table if the packet is a route update packet, however, Akahane does disclose determining the one routing table as shown above regarding claim 1.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Akahane to update a routing table if a packet is a route update packet after the one routing table is determined since the Applicant has admitted that doing so is well known in the prior art for making necessary updates to a routing table when

network topology changes (paragraphs 0003 and 0004) and, therefore, one of ordinary skill in the art would have found it obvious to modify the teachings of Akahane to include this subject matter in order to achieve the advantages as admitted by the Applicant.

Claims 11 and 17 are rejected since claims 11 and 17 recite a router and computer program product that recite substantially the same limitations as recited in claim 5 and are subject to the same motivations regarding the obviousness of claim 5.

Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Akahane.

Regarding claim 20, Akahane discloses the method of claim 19.

Akahane does not expressly disclose wherein the step of associating the packet with the given interface includes inserting an identifier of the given interface into the packet, however, Akahane does disclose wherein the packet is received at a given interface and is associated therewith as shown above regarding claim 19 and Akahane discloses inserting an identifier into an packet (paragraph 0006, specifically "determines the forwarded-to-destination of the packet...and encapsulates the packet").

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Akahane in order to insert an identifier of a given interface into a packet since Akahane discloses that the given interface with which the packet is associated determines which VPN that packet belongs to (paragraph 0006). In view of these teachings shown above, one of ordinary skill would have found it obvious to modify the reference so that the packet includes the identifier in order to allow the determination of the VPN to be done using the identifier included with the packet.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Patent 6 069 895 to Ayandeh et al;

US Patent Application Publication 2002/0023152 to Oguchi.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS

of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to George C. Neurauter, Jr. whose telephone number is (571) 272-3918. The examiner can normally be reached on Monday through Friday from 9AM to 5:30PM Eastern.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wiley can be reached on (571) 272-3923. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

gcn

DAVID WILEY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100